

A close-up photograph of numerous small, light pink flowers with yellow centers, filling the upper half of the cover. The flowers are slightly out of focus, creating a soft, dreamy atmosphere.

windstar journal

*It is important that you know you
are planting seeds even if you don't
see them bloom.*

Vivienne Verdon-Roe

FIVE DOLLARS

SPRING 1988

A close-up photograph of numerous small, light pink flowers with yellow centers, filling the lower half of the cover. The flowers are slightly out of focus, creating a soft, dreamy atmosphere.

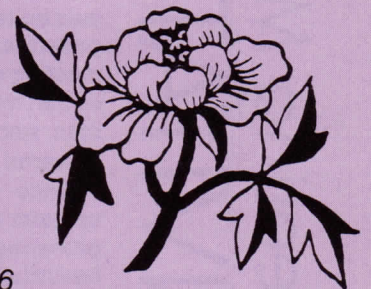


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"Wisdom, understood as a new kind of strength, is a paramount necessity. . . Now, even more than ever before, it is required as a basis for fitness, to maintain life itself on the face of this planet, and as an alternative to paths toward alienation or despair."

Jonas Salk

"The systems view looks at the world in terms of relationships and integration. . . All natural systems are wholes. The specific structures of natural systems arise from the interactions and interdependence of their parts. . . The systemic, or ecological, way of thinking has many important implications—not only for science and philosophy, but also for our society and our daily lives."

Fritjof Capra



EDUCATING FOR ECOLOGICAL LITERACY

by Cheryl Charles

Education about the environment is not a visible priority in the schools of the United States, despite the fact that ecological literacy is an increasingly visible imperative. People are concerned about the quality of the water they drink and the air they breathe. Voting citizens indicate their commitment to wildlife and wilderness. Pollsters like Yankelovich, Harris and others find such persistent interest in a healthy environment among the populace that they describe this phenomenon as a trend, not a fad.

Without education about the environment, including an ecological grounding for learners of all ages, we are not preparing a wise citizenry who can use science and technology appropriately. We are not preparing a citizenry who can make informed decisions or take responsible action to conserve and protect the living systems of the world, beginning in our own neighborhoods.

Ecological Education

I am an advocate for ecological literacy. I advocate a systems approach to ecological understanding rather than traditional fragmented approaches. This means I am concerned about the whole of the planet—its physical properties and its intricate webs of diverse life, including the incredibly varied human families who inhabit the Earth. I am concerned about communities of life, with people and nature in balance. I am concerned about the solar system and universe within which the Earth rests in delicate balance. I am concerned about the sustainability of life on this planet, now and in the future.

For many years, philosophers, scientists, cultural visionaries and some world leaders have recognized that citizens simply must be prepared



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to make informed and responsible decisions concerning the natural world. For example, how responsible is it to develop nuclear technology without understanding its potential impacts on the living world—not just immediately, but for generations to come? How can we create, use and dump toxic wastes in our land and waters without a thorough consideration of consequences? What are the long-term costs of letting fish die in wilderness lakes as a result of our burning of fuels in the atmosphere? What are the value implications of letting our children, our parents, and our friends die from contact with poisons we, collectively, have put in the environment—in the air we breathe, the waters we drink, the foods we eat? What are the tradeoffs when we individual citizens buy packaged foods, turn on a light switch, and drive miles daily to and from work? When we cast our votes for representatives, senators and presidents—do we choose from those who will make informed decisions about these issues?

Life today is about decision making. Future life depends upon the integrity of our decisions. Acquiring awareness, knowledge, skills, attitudes, experiences and commitment to make informed and responsible decisions affecting the quality of life—now and in the future—is a necessity. Everything in the world cannot be kept separate in tidy boxes and categories. We are members of a living ecosystem—an ecosystem that encompasses the whole of the planet. In the classic words of the Native American Indian leader, Chief Sealth, “We are all connected.”

I firmly believe that if people all over this planet remembered—truly remembered—the fundamental connectedness of all life forms, we would be better able to avoid polarizing disputes and animosities among human beings. Politics of war, racism, sexism, ageism and religious differences would be seen to make no sense. To the extent that we recognize our connections and similarities with *all* forms of life, we can develop a greater empathy for other humans. As we reconnect with the Earth itself, we may begin to strengthen the bonds between the people of the planet as well. We may be able to see and feel how to live as people of this planet in harmony. In the words of a phrase used by many today, we will be able to “give peace a chance” in the context of a living base.

Every day, each one of us makes decisions and takes action that affect the future of life on this planet. There are no easy answers to all the dilemmas these actions raise. Thoughtful people may genuinely disagree about what choices should be made. The proper function of education, I believe, is to help prepare learners of all ages to make these difficult choices and decisions at a personal level. Otherwise our choices are made by default.

I advocate a systems approach to ecology, rather than traditional fragmented approaches.

In a world that is ultimately ambiguous, we need to prepare ourselves to make decisions based on the best available knowledge—using skills of intuition as well as analysis. We are never going to have every answer we need. There are fewer and fewer “answers” in an increasingly complex world. There is, however, one dimension in which each of us can continually ground ourselves. We can remember to stay rooted in natural systems. We can physically and metaphorically stay in touch with the living environment outside the cement and steel edifices of cultural artifice. We can ground ourselves in intimate knowledge of the life support systems of our communities, and of the entire planet. We can re-commit ourselves to life-long learning within the first classroom, the living Earth.

As individuals within post-industrial societies like the United States, we have grown less responsible for securing our own food and meeting our other physical needs. We have less opportunity to experience how the world works. As a result, to an increasing and alarming degree, when we do go outside we inadvertently cause damage to wildlife, to plants, and to whole environments—now, and for future generations. For example, we plant lawns in areas where water supplies are limited. We introduce exotic wildlife and vegetation that jeopardize native plants and animals. We drain wetlands and spray roadside vegetation, destroying natural habitats for wildlife in our communities. We regularly eliminate whole areas of habitat, destroying them as places in which wildlife can live. We scar the earth with our recreational vehicles—damaging vegetation, creating erosion which affects water quality, and leaving marks upon the earth that will be there when our grandchildren have grandchildren. We dump pesticides in our water supplies. We simply do not know how to take care of the garbage we produce and the toxins we generate. We poison ourselves, our children, the plants, animals, skies, waters, and the living Earth that is our home. In the face of all of this, we need basic ecological education.

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Priorities in Schooling

We need more of what are popularly called conservation, outdoor and environmental education—in a systemic ecological form. Given the characteristics of contemporary schooling, we must work for infusion and integration of ecological education throughout school curricula.

The elementary schools of the United States emphasize language arts—which includes reading and writing—and mathematics. Science comes next in most school districts in terms of time spent; then social studies, which includes citizenship education; then physical education, music and art, where still offered given budget cutbacks. Computer education is on the rise, and obviously has been for the past decade. Education for decision-making and critical-thinking skills goes up and down in emphasis. It presently is up again in the United States. Attention to issues involving the interrelationships between science, technology and society is also on the rise—with little associated emphasis on natural systems and the organizing context of “environment.”

In the high schools today, the swing is to a more traditional basic curriculum, in contrast with one where students pick from a great many electives. The current Secretary of Education, William Bennett, recommends a mandatory set of high school course requirements with four years of English (all literature, by the way); three years of math; three years of science; three years of social studies; two years of foreign language; two years of physical education; and one semester each of art and music history.

This is the bottom line when looking at Secretary Bennett’s recommendations as well as contemporary formal schooling in the United States: *Attention to education about the environment is not a visible priority in most of the elementary and secondary schools of this country.* However, Secretary Bennett’s agenda *does not exclude* environmental education.

It is possible to offer the kind of basic core curricula that Secretary Bennett and others advocate, while simultaneously grounding such instruction in environmental foundations for ecological literacy. I have been directing environmental and conservation education programs for 15 years at the national level that do this. I do believe progress is being made. However, much work—requiring persistence and initiative—remains to be done.

Let me share with you two recent anecdotes—and then offer a few recommendations for some things that each of us can do to help nurture and create a more effective ecological education for citizens of all ages.



Children Making a Difference

Students in a Denver, Colorado metropolitan-area elementary school successfully protected a nine-inch tall shore bird that chose to nest on the school playground. Amid the bustle of school life, the bird laid eggs and hatched her young. Playground activities and sports were suspended in the area where the bird was nesting. Teachers helped the students learn about the bird and its needs by using instructional activities from the conservation and environmental education program, Project WILD. The bird and her young eventually departed—leaving the students richer in understanding and respect for their own natural environment.

High school students in Lee County, Florida worked over a three-year period to preserve a cypress swamp destined for development within their city limits. As a swamp, the site was important for ecological, scientific, wildlife, and recreational values. Preserving the swamp required

voters to pass a referendum to increase their own taxes for its purchase—obviously not an overwhelmingly popular notion in a community abundant with fixed-income, retirement families. The referendum was passed with the highest plurality ever given to a tax issue in the county.

These anecdotes are offered as evidence that people can make a difference. Especially significant—*young* people can make a difference. These youth are elementary and secondary students in public schools in the United States. Neither the students, nor their communities, are particularly unusual. Perhaps most important, the students learned that they can make a difference. They helped to protect and maintain the quality of life in their own communities. They experienced being responsible members of their own ecological community as well as their cultural community of family, friends, and neighbors. Some actions are small, some are large, but each individual action does make a difference. That is a part of what these students learned.

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ourselves to
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What Can Each of Us Do?

- Do something every day to remind ourselves of our fundamental connections to all other life forms. It can be as simple as taking a walk and looking for evidence of wildlife—even on city streets. It can be the simple movement of turning off the tap water during the process of brushing our teeth. It can be taking time to wonder where the birds and insects go during torrential summer rain storms or winter blizzards.
- Become advocates for ecological education. Ask local school superintendents, principals, and teachers if they are including education about the environment in a meaningful way throughout each student's school curriculum, every year. If they are not, encourage them to do so. If they are, commend them—because they are a minority.
- Support diverse communications media that help to inform and educate the general public about environment-related topics. Join credible wildlife conservation organizations like the National Wildlife Federation, National Audubon Society and The Cousteau Society; subscribe to cable services like Turner Broadcasting System, the Discovery Channel and others that offer nature programming; and make the importance of ecological literacy a priority in our own personal and public communications.
- Provide opportunities for learning about the environment in business and community settings. Every business depends in some way upon natural resources from the environment—whether paper from trees and plastics from fossil derivatives, or the raw materials that provide the basis for entire communications and transportation systems. Let's educate ourselves and our co-workers or employees about the natural resources upon which we must directly depend, and what efforts we are making to do so responsibly—including through our conserving and recycling practices.
- Whenever possible, go outside. As the naturalist John Muir once said, "Nature's peace will flow into you as sunshine flows into trees. The winds will blow their own freshness into you, and the storms their energy, while cares will drop off like autumn leaves." A personal process of reconnection is surprisingly profound.
- Emphasize the positive. Evolution does. We can make a difference. Although the challenges are literally those of life and death, we all are contributors to a healthy living world. We start each day inside ourselves. That is where the power to make a difference begins. We need simultaneously to work hard, with authenticity and commitment—and yet not be too hard on ourselves. If we are too self-critical, we will be immobilized by the enormity of the challenge and destroyed by fear. Success with tangible and manageable goals breeds success. We need to educate for human responsibility where our efforts and our actions extend the options for people and the environment, culture and nature.
- Celebrate and nourish ourselves and others. I do not mean this in a narcissistic mode. I simply mean again that the capacity for change begins within each of us. Each of us, our parents, our children, our friends, our business associates, and people all over this planet with whom we are bonded as a living family—each of us has enormous capacities, tremendous talents and infinite energy when we remember our part in the cyclic systems of renewing life.



Conclusion

It is not a question of limited resources that faces us today. It is a question of our ability to remember the first classroom, life itself. It is a question of our capacity to bond with the Earth and with all its forms of life. For some, this sense of kinship is buried so deeply, it is smothered and dying. We have to go about opening doors and windows, bringing the *life* back into living. It is one Earth, and it is home to us all. What is at stake today is not actually the future of the Earth—but the capacity of human beings to live as responsible members of the Earth's living family. Sustainable peace requires peace between humans and nature, as well as peace between nations. When in doubt, remember—the Earth itself will teach us.